

**REMARKS**

Prior to entry of this paper, claims 1-20 were pending. Claims 1, 3, 5, and 20 were rejected; Claims 11-19 were allowed; and Claims 2, 4, and 6-10 were objected to, but were identified as being allowable if re-written in independent form. In this paper, Claims 4 and 6 are re-written in independent form, and new Claims 21-24 are added. Claims 1-24 are currently pending. No new matter is added by way of this amendment. For at least the following reasons, Applicants respectfully submit that each of the presently pending claims is in condition for allowance.

**Allowable Subject Matter (Claims 2, 4, and 6-19)**

Claims 11-19 are allowed. Applicants thank the Examiner for his work on this matter.

Claims 2, 4, and 6-10 were objected to, but were identified as being allowable if re-written in independent form. In this paper, Claims 4 and 6 are re-written in independent form. Claims 7-10 depend from independent Claim 6. For at least this reason, it is respectfully submitted that Claims 4 and 6-10 are in condition for allowance.

Claim 2 is respectfully submitted to be in condition for allowance at least because it depends on independent Claim 1, which is proposed to be allowable for at least the reasons stated below.

**Rejections under 35 U.S.C. § 102(b) (Claims 1, 3, 5, and 20)**

Claims 1, 3, 5, and 20 were rejected under 35 U.S.C. §102(b) as being anticipated by Kunst (U.S. Patent No. 6,008,685). The rejection to Claims 1, 3, and 5 are respectfully traversed. The rejection to Claim 20 is respectfully rendered moot by the amendment to Claim 20.

**Claim 1**

First, Claim 1 is respectfully submitted to be allowable at least because Kunst does not disclose, "two signal channels that are configured to receive, at first and second sense nodes, a differential input signal from a **dual junction** temperature sensor circuit" (emphasis added), as recited in Applicants' Claim 1.

In Fig. 2 of Kunst, a single junction temperature sensor is shown. Transistor 250, having a pn junction  $V_{BE}$ , is used for temperature sensing in Fig. 2 of Kunst. The circuit of Fig. 2 of Kunst does not employ two pn junctions for temperature sensing. Accordingly, Kunst does not disclose “two signal channels that are configured to receive, at first and second sense nodes, a differential input signal from a dual junction temperature sensor circuit”.

Second, Claim 1 is respectfully submitted to be allowable at least because Kunst does not disclose, “two signal channels that are configured to receive, at first and second sense nodes, a differential input signal from a dual junction temperature sensor circuit, and further configured to provide **a differential intermediate signal** from the differential input signal” (emphasis added), in conjunction with the limitation, “a conversion circuit that is configured to convert **the differential intermediate signal** into a digital temperature signal” (emphasis added), as recited in Applicants’ Claim 1.

Kunst does show two signals lines that provide a differential signal, that is converted into a digital signal that is associated with a remote temperature, and where the differential signal is provided by two signal channels.

However, the two signal channels in this case are wire 260 and wire 270 of Kunst. In Kunst, wire 260 and wire 270 provide a differential voltage ( $V_{BE}$ , as adjusted by the parasitic resistances) to measurement circuit 230, which in turn converts the differential voltage into a digital signal indicating the temperature. But wire 260 and wire 270 do not meet the limitation “receive, at first and second sense nodes, a differential input signal” in conjunction with “two current sources configured to provide respective bias currents to the first and second sense nodes”. Wire 260 and wire 270 do receive a differential input signal at first and second sense nodes, namely, the base and emitter terminals of transistor 250. However, a bias current is not provided to wire 270.

Instead of using wire 260 and wire 270 of Kunst as the two signal channels, the Office Action refers to switch S1 and switch S2 as the two signal channels. However, switch S1 and switch S2 do not provide a differential intermediate signal that is converted into a digital temperature signal. Rather, it is wire 260 and wire 270 that do so. Switch S1 and switch S2 are both coupled to the emitter terminal of transistor 250, but not to the base terminal, and it is the base-emitter voltage that is used to provide a differential voltage that is converted into a digital

temperature signal in the circuit of Fig. 2 of Kunst. Accordingly, Kunst does not disclose all of the limitations of Claim 1.

### **Claims 3 and 5**

Claims 3 and 5 are respectfully submitted to allowable at least because they depend from Claim 1, which is proposed to be allowable.

Additionally, Claim 5 is respectfully submitted to be allowable at least because Kunst does not disclose, "multiplexing which one of the bias currents is provided to which one of the two signal channels", as recited in Applicants' Claim 5. The Office Action states that the two signal channels are switches S1 and S2. In Kunst, there is no circuitry that multiplexes which one of the bias currents is provided to which one of the two signal channels. This would multiplexing between: current I1 being provided to switch S1 and current I2 being provided to switch S2, and current I2 being provided to switch S1 and current I1 being provided to switch S2. Kunst does not disclose two different bias current being swapped between switch S1 and switch S2. Accordingly, Kunst does not disclose all of the limitations of Claim 5.

### **Claim 20**

Claim 20 is respectfully submitted to be allowable at least because Kunst does not disclose, "means for converting the differential intermediate signal into a temperature signal that is related to a temperature of a remote device such that the temperature of the remote device is calculated based on a voltage difference between two pn junctions", as recited in Applicants' Claim 20 as amended.

### **New Claims 21-24**

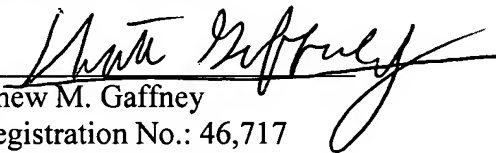
New Claims 21-24 are respectfully submitted to be allowable at least because they depend on Claim 1, which is proposed to be allowable.

**CONCLUSION**

It is respectfully submitted that each of the presently pending claims (Claims 1-24) are in condition for allowance and notification to that effect is requested. Examiner is invited to contact the Applicants' representative at the below-listed telephone number if it is believed that the prosecution of this application may be assisted thereby. Although only certain arguments regarding patentability are set forth herein, there may be other arguments and reasons why the claimed invention is patentable. Applicant reserves the right to raise these arguments in the future.

Dated: October 26, 2005

Respectfully submitted,

By   
Matthew M. Gaffney

Registration No.: 46,717  
DARBY & DARBY P.C.  
P.O. Box 5257  
New York, New York 10150-5257  
(206) 262-8900  
(212) 527-7701 (Fax)  
Attorneys/Agents For Applicant